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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/044,711	Applicant(s) BREYMAN ET AL.	
	Examiner Cheryl M Fernandes	Art Unit 2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☒ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 October 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5 and 6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because referring to Figures 5A-B, the figures do not illustrate clearly what the elements of the figures are supposed to indicate. For example, the figures contain depictions of various shapes such as triangles and circles, but do not provide a legend that illustrates what the shapes signify.

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show by way of element numbers or otherwise how the neighborhoods to the test documents are dense or less dense, much less indicate what parts of the figures signify the test documents described on page 14 of the specification.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so

as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

3. The disclosure is objected to because of the following informalities:

- Referring to page 1 lines 6-9, an application claiming the benefit of a provisional application under 35 U.S.C. 119(e) should not be called a "continuation-in-part" of the provisional application since an application that claims benefit of a provisional application is a nonprovisional application of a provisional application, not a continuation, division, or continuation-in-part of the provisional application (see MPEP 201.08 [R-1]). Examiner respectfully submits that a continuation-in-part application may only be filed under 37 CFR 1.53(b) and must claim benefit of a prior nonprovisional application under 35 U.S.C. 120 or 365(c). Therefore, examiner respectfully asserts that the instant

application is a nonprovisional of the provisional application number 60/246752 and that page1, lines 6-7 should be rephrased as such.

- Page 1, line 13: 'categorized' should read 'categorize';
- Page 14, line 16: 'weekly' should read 'weakly';
- Page 4, line 21: element 301 relating to Figure 3 is mistakenly labeled in the specification as 'recall curve' instead of 'precision curve';
- Page 11, line 34: 'links' relating to Figure 4 are mistakenly labeled in the specification as elements 491, 492, and 493 instead of 491, 493, and 495 respectively.

Appropriate correction is required.

Claim Objections

4. The claim below is objected to because of the following informalities:

- Claim 1, line 6: Examiner suggests removal of the redundant word 'belong' from the line.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 and 23-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitation "reporting the test documents and category assignments" in line 11. It is unclear as to whether the 'category assignments' reported refer to the category assignments for the test documents or the training set documents.

6. The term "substantially" in claims 5-9 and 27 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is therefore unclear as how many documents from the superset have been assigned to the test set. The term "substantially" is often used in conjuncture with another term to describe a particular characteristic of the claimed invention. It is a broad term. In re Nehrenberg, 280 F 2d 161, 126 USPQ 383 (CCPA 1960). The court held that the limitation "to substantially increase the efficiency of the compound as a copper extractant" was definite in view of the general guidelines contained in the specification and the rest of the claim. In re Mattison 509 F .2d 563, 184 USPQ 484 (CCPA 1975). Examiner asserts that the specification fails to clearly provide guidelines for the term 'substantially'.

7. Claims 11(line 2) and 13 (lines 2 and 4) recite a singular form limitation 'the test document', which makes it unclear as to whether the claims (that depend on claim 10 which mentions plural test documents) are referring to *a* test document or 'the test documents' of claim 10.

8. Claims 12 and 14 depending from claims 11 and 13 respectively therefore inherit the aforenoted deficiency.

9. Claims 15 and 28 recite the limitation "the identifying step" in line 1 of the claims. There is insufficient antecedent basis for this limitation in the claims.

10. Claims 16,17, and 21 recite the limitation "the identifying test documents" in line 2 of all claims. There is insufficient antecedent basis for this limitation in the claims.

11. Claims 18-20 and 31-33 recite the limitation "the user interface" in line 1 of the claims. There is insufficient antecedent basis for this limitation in the claims.

12. Claims 23 (line 2) and 25 (lines 2 and 4) recite the limitation "the test document". There is insufficient antecedent basis for this limitation in the claims. Claims 24 and 26 depending from claims 23 and 25 respectively, therefore inherit the aforenoted deficiency.

13. Claims 29 and 30 recite the limitation "the filtering step" in line 1 of the claims. There is insufficient antecedent basis for this limitation in the claims.

14. Claims 29, 30, and 34 recite the limitation "the identified documents" in line 2 of the claims. There is insufficient antecedent basis for this limitation in the claims.

15. Claims 2-21 depending from claim 1 therefore inherit the aforenoted deficiency.

16. Claims 29-30 depending from claim 28, therefore inherit the aforenoted deficiencies.

Due to the number of 35 USC § 112 rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejections, however, the list of rejections may not be all-inclusive. Applicant should refer to these rejections as examples of deficiencies and should make all the necessary corrections to eliminate the 35 USC § 112 problems and place the claims in proper format.

Due to the vagueness and a lack of clear definition of the terminology and phrases used in the claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22, 23 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Number 5,251,131 issued to Masand et al (hereafter Masand).

17. Referring to claim 22, Masand discloses:

A computer assisted method of auditing a superset of training data ('memory based reasoning', field of invention; col. 14, lines 26-37[1]; 'training database', col. 6, lines 12-18; 'medical database', col. 11, lines 10-13), the superset comprising examples of documents ('training data', col. 6, lines 12-18; 'patient records', col. 11, lines 10-13) having one or more category assignments ('target value' represents classification of the record, col. 6, lines 12-18, 'symptoms, diagnosis, and treatment plans' data field categories, col. 11, lines 10-13; 'industry category', col. 14, line 54- col. 15, line 8), the method including:

[1] A data parallel system for classifying data in training sets implements memory based reasoning that enables decision making when comparing data in the data sets.

- determining k nearest neighbors of the documents in the superset (col. 22, lines 33-56);
- categorizing the documents based on the k nearest neighbors into a plurality of categories (col. 22, line 33- col. 23, line 18);
- calculating a metric of confidence ('confidence score', col. 23) based on results of the categorizing step (col. 23, lines 19-33 and 53-64) and the category assignments for the documents('target field value', col. 23, lines 53-64); and
- reporting the documents and category assignments ('nearest neighbor examples', col. 22, line 33 – col. 23, line 64) that are suspicious and that appear to be missing, based on the metric of confidence ('confidence score' determined using K nearest neighbors metric, col. 22, line 33 - col. 24, line 44). Masand teaches that determination of a match score that indicates suspicious and missing data and that a match score or confidence score that does not meet or exceed the referral threshold is reported to a user by a referral for consideration.

18. Referring to claim 23, Masand discloses that the metric of confidence is an unweighted measure of distance between the test document and the examples of documents belonging to various categories (col. 24, line 45- col. 25, line 7).

19. Referring to claim 27, Masand discloses that the determining, categorizing and calculating steps are carried out substantially without user intervention (Background, col. 1, lines 50-55; col. 23, lines 9-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5-11, 15-18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,301,579 B1 issued to Becker, and further in view of US Patent Number 5,251,131 issued to Masand et. al (hereafter Masand).

20. Referring to claim 1, Becker discloses a computer assisted (col. 8, lines 31-43) method of auditing a superset of training data (see Summary for method of visualizing a multi-dimensional data set, lines 45-47; col. 8, lines 58-61; col. 10, lines 29-33; 'data mining', Background), the superset comprising examples of documents ('records', col. 7, lines 18-27; col. 11, lines 45-50) having one or more category assignments ('categorical' attributes or data, col. 7, lines 44-59; col. 11, lines 41-45), the method including:

- partitioning the superset into at least two disjoint sets (col. 12, lines 1-4),
  including a test set and a training set, wherein
  the test set includes one or more test documents (col. 12, lines1-6)
  and
  the training set (col. 12, lines 1-7) includes examples of documents
  belonging to at least two categories (col. 11, lines 42-50;

'descriptive attributes', Fig. 3; 'odor' and 'spore print color' attribute categories, col. 16, lines 1-37, Fig. 5 and 6);

- categorizing the test documents using the training set ('classifier', col. 6, lines 44-47; col. 7, lines 5-12; col. 11, line 51- col. 12, line 2);
- calculating a metric of confidence ('error estimation' or 'classification accuracy' performed by 'Holdout' and 'Cross-Validation' methods, col. 28, line 28- col. 30, line 2[2]; col. 30, lines 28-41) based on results of the categorizing step (col. 28, lines 39-43) and the category assignments for the test documents ('back-fitting' the test set with the holdout estimation, col. 29, lines 55-65; col. 30, lines 28-41; Fig. 19, element 1926); and
- reporting the test documents ('creating visualizations', col. 28, line 29 - col. 29, line 65[3]; Summary, col. 4, lines 22-29; Fig. 5 and 6) and category assignments ('records', col. 6, lines 30-43; 'attributes', col. 12, line 50- col. 14, line 34).

Referring to claim 1, although Becker teaches the reporting of test documents based on prior probability (col. 17, line 59- col. 18, line 47[4]), Becker fails to teach reporting documents and category assignments that are *suspicious* and that *appear to be missing* based on the *metric of confidence*.

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[2] The Holdout and Cross-Validation methods that calculate the error estimation or classification accuracy of a classifier are metrics of confidence. In particular, the Cross-Validation method improves a corresponding confidence interval.
[3] Refer to the Holdout method that calculates estimated accuracy on the test set. In addition, refer to col. 29, lines 49-65 that mention back-fitting of test set data. Examiner asserts that visualizing a decision table classifier (col. 29, lines 37-39) is performed by reporting test set data.
[4] The reporting of mushroom data is done by the use of a pie chart in Fig. 5 (label probability pane, element 520), to predict whether a mushroom will fall into either of the two categories, edible or

However, Masand teaches analogous art comprising reporting documents and category assignments that are suspicious and that appear to be missing based on a metric of confidence (refer to discussion of the fourth limitation of claim 22 above).

It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Becker to include reporting of documents and category assignments that are suspicious and that appear to be missing based on a metric of confidence, as taught by Masand.

The ordinary skilled artisan would have been motivated to modify Becker per the above for the purpose of allowing a query to be referred to a human expert for consideration if a match score, that indicates suspicious and missing data, or confidence score does not meet or exceed the referral threshold (col. 23, line 25- col. 24, line 44).

21. Referring to claim 5, Becker/Masand discloses repeating the partitioning, categorizing, and calculating steps until substantially all of the documents in the superset have been assigned to the test set (col. 29, lines 12-48; col. 30, lines 29-38). The Holdout and Cross-Validation methods assume in the citation above, that future records will be sampled from the same distribution as the training set (lines 14-16). In addition, a number (t) repetitions is mentioned in lines 31-39, which when increased, improves the accuracy estimate on the test set provided for by the Holdout method. Examiner asserts that the steps are repeated as indicated by (t) repetitions. In addition,

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poisonous. The reporting of this prior probability data in the figure indicates an unlabeled record is likely to fall into the edible category than the poisonous category (col. 18, lines 41-47).

col. 30, lines 29-38 indicate that one-third (about 30 percent) of the records are kept in the test set.

22. Referring to claim 6, Becker/Masand discloses that the partitioning, categorizing and calculating steps are carried out substantially without user intervention (col. 11, line 59- col. 12, line 17).

23. Referring to claim 7, Becker/Masand discloses that the partitioning, categorizing and calculating steps are carried out substantially without user intervention. Refer to discussion of claim 5 above wherein the steps of partitioning, categorizing and calculating are repeated. Refer to discussion of claim 6 above for mention of the partitioning, categorizing and calculating steps being carried out substantially without user intervention.

24. Referring to claims 8 and 9, Becker/Masand discloses that the partitioning, categorizing, calculating and reporting steps are carried out substantially without user intervention (refer to discussion of claim 6 in regards to the steps being carried out substantially without user intervention).

25. Referring to claim 10, Becker/Masand teaches that the categorizing step includes determining k nearest neighbors of the test documents ('classification of census', col. 22, line 33- col. 24, line 44) and the calculating step is based on a k nearest neighbors categorization logic ('confidence score', 'k nearest neighbor method', col. 22, lines 53-64).

26. Referring to claim 11, Becker/Masand teaches that the metric of confidence is an unweighted measure of distance between the test document and the examples of documents belonging to various categories (col. 24, line 45- col. 25, line 7).

27. Referring to claims 15 and 16, Becker/Masand discloses that filtering the test documents further includes color coding the identified test documents based on the metric of confidence (col. 6, lines 24-29; col. 9, lines 52-53; col. 18, lines 9-19).

28. Referring to claim 17, Becker/Masand discloses that the filtering step further includes selecting for display the identified test documents based on the metric of confidence (col. 6, lines 14-44, col. 9, lines 36-53, col. 21, line 65- col. 22, line 4, col. 28, lines 14; Fig. 14 and 15; 'Selection menu', col. 20, lines 48-64 in reference to Fig. 5).

29. Referring to claim 18, Becker/Masand discloses a user interface that is a printed report ('Mineset Decision Table Visualizer', Fig. 5-8; col. 15, line 55- col. 16, line 26; col. 19, line 59-65).

30. Referring to claim 20, Becker/Masand teaches that the user interface is a sorted display identifying at least a portion of the test documents ('Nominal Order menu', col. 20, lines 20-47).

31. Referring to claim 21, Becker/Masand teaches calculating a precision score for the identified test documents ('prior probability', col. 18, lines 9-33[5]).

[5] Referring to the formula for calculating the precision score disclosed in the specification (page 15, lines 1-9), Examiner asserts that the prior probability calculation in Becker serves the same purpose.

32. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,301,579 B1 issued to Becker in view of US Patent Number 5,251,131 issued to Masand, as applied to claim 1 above, and further in view of US Patent Number 6,324,531 B1 issued to Anderson et al (hereafter Anderson).

33. Referring to claim 2, Becker/Masand discloses repeating the steps of partitioning, categorizing and calculating, as claimed in claim 1 upon which the claim depends (col. 29, lines 12-48). The Holdout and Cross-Validation methods assume in the citation above, that future records will be sampled from the same distribution as the training set (lines 14-16). In addition, a number (t) repetitions is mentioned in lines 31-39, which when increased, improves the accuracy estimate on the test set provided for by the Holdout method. Examiner asserts that the steps are repeated as indicated by (t) repetitions.

Referring to claim 2, Becker/Masand fails to teach that at least one-half of the documents in the superset have been assigned to the test set.

However, Anderson teaches analogous art wherein at least one-half of the documents in a superset have been assigned to a test set (col. 10, lines 10-39; Table 4 in col. 11).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Becker/Masand to further include assigning at least one-half of the documents in a superset to a test set as taught by Anderson.

The ordinary skilled artisan would have been motivated to modify Becker/Masand per the above for the purpose of detecting mislabeling of a commodity (Background, col. 2, lines 2-4).

34. Referring to claim 4, Becker/Masand/Anderson discloses that the test set created in the partition step has a plurality of test documents (col. 30, lines 28-39; ('records', col. 7, lines 18-27; col. 11, lines 45-50).

35. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,301,579 B1 issued to Becker in view of US Patent Number 5,251,131 issued to Masand, in view of US Patent Number 6,324,531 B1 issued to Anderson et al, as applied to claims 1 and 2 above, and further in view of US Patent Number 5,537,488 issued to Menon et al (hereafter Menon).

Referring to claim 3, Becker/Masand/Anderson discloses all of the claimed subject matter as set forth above, but fails to teach that the test set created has a single test document.

However, referring to claim 3, Menon discloses analogous art (col. 3, lines 43-59) wherein a test set created has a single test document (col. 2, lines 43-51).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Becker/Masand/Anderson to further include a test set created that has a single test document taught by Menon.

The ordinary skilled artisan would have been motivated to modify Becker/Masand/Anderson per the above for the purpose of single frame testing wherein

each frame is associated with a training class histogram for the closest correlated category (Abstract; col. 2,line 43-51).

36. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,301,579 B1 issued to Becker, in view of US Patent Number 5,251,131 issued to Masand et. al, as applied to claims 1 and 10 above, and further in view of US Patent Number 6,643,629 B2 issued to Ramaswamy et al (hereafter Ramaswamy).

37. Referring to claim 13, the combination of Becker/Masand as set forth above discloses all of the claimed subject matter but the aforenoted combination is silent as to the metric of confidence being a weighted measure of distance between the test document and the examples of documents belonging to various categories, the weighted measure taking into account the density of a neighborhood of the test document.

However, Masand teaches that the metric of confidence is a weighted measure of distance between the test document and the examples of documents belonging to various categories (col. 24, line 45- col. 25, line 7; For reference to other metrics besides the nearest neighbor metric, refer to col. 19, line 61 – col. 24, line 44).

Masand fails to teach that the weighted measure takes into account the density of a neighborhood of the test document.

However, in reference to claim 13, Ramaswamy teaches in analogous art, a distance metric that takes into account the density of a neighborhood of a data test (Background; col. 2, lines 12-44[6]).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Becker/Masand with the teachings of Ramaswamy to include a weighted measure takes into account the density of a neighborhood of a test document.

The ordinary skilled artisan would have been motivated to modify Becker per the above for the purpose of improving the performance of the k nearest neighbors method as taught by Masand (col. 23, lines 19-24).

The ordinary skilled artisan would have been motivated to modify Becker and Masand per the above for the purpose of ranking points in relation to their neighboring points and thereby eliminates a significant number of data points from consideration as outliers as taught by Ramaswamy. In addition, this results in substantial savings in computational expense compared to conventional methods for identifying such points (see Summary).

38. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 6,301,579 B1 issued to Becker, in view of US Patent Number 5,251,131 issued to Masand et. al, as applied to claim 1 above, and further in view of US Patent Number 6,405,195 B1 issued to Ahlberg et al. (hereafter Ahlberg).

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[6] Clusters are defined as neighborhoods in lines 37-43. Examiner asserts that the distance metric takes into consideration clusters (or neighborhoods) of points in a data set.

Referring to claim 19, Becker/Masand discloses all of the claimed subject matter as set forth above, but fails to teach that the user interface is a file conforming to XML syntax.

However, Ahlberg teaches analogous art wherein a user interface is a file conforming to XML syntax (col. 16, lines 37-53).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Becker/Masand to further include a user interface file conforming to XML syntax taught by Ahlberg.

The ordinary skilled artisan would have been motivated to modify Becker/Masand per the above for the purpose of implement various data transfers and display generation as commonly known in the art (col. 16, lines 37-53).

39. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 5,251,131 issued to Masand et al (hereafter Masand), as applied to claim 22 above, in view of US Patent Number 6,643,629 B2 issued to Ramaswamy et al (hereafter Ramaswamy).

Referring to claim 25, Masand discloses all of the claimed subject matter as set forth above and teaches that the metric of confidence is a weighted measure of distance between the test document and the examples of documents belonging to various categories (col. 24, line 45- col. 25, line 7; For reference to other metrics besides the nearest neighbor metric, refer to col. 19, line 61 – col. 24, line 44),

However, Masand fails to teach that the weighted measure takes into account the density of a neighborhood of the test document.

Ramaswamy teaches in analogous art, a distance metric that takes into account the density of a neighborhood of a data test (Background; col. 2, lines 12-44[7]).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Masand to further include a distance metric that takes into account the density of a neighborhood of a data test as taught by Ramaswamy.

The ordinary skilled artisan would have been motivated to modify Masand per the above for the purpose of ranking points in relation to their neighboring points and thereby eliminates a significant number of data points from consideration as outliers. This results in substantial savings in computational expense compared to conventional methods for identifying such points (see Summary).

40. Claims 28-31 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 5,251,131 issued to Masand et al (hereafter Masand), as applied to claim 22 above, in view of US Patent Number 6,301,579 B1 issued to Becker.

41. Referring to claims 28-31 and 33-34, Masand discloses all of the claimed subject matter as set forth above, but except for:

- color coding the identified test documents based on the metric of confidence (claims 28 and 29);

- selecting for display the identified test documents based on the metric of confidence (claim 30);
- a user interface that is a printed report (claim 31);
- a user interface that is a sorted display identifying at least a portion of the test documents (claim 33);
- calculating a precision score for the identified test documents ('prior probability', col. 18, lines 9-33[8]) (claim 34).

42. However, Becker discloses analogous art wherein:

- color coding the identified test documents based on the metric of confidence (col. 6, lines 24-29; col. 9, lines 52-53; col. 18, lines 9-19) (claims 28 and 29);
- selecting for display the identified test documents based on the metric of confidence (col. 6, lines 14-44, col. 9, lines 36-53, col. 21, line 65- col. 22, line 4, col. 28, lines 14; Fig. 14 and 15; 'Selection menu', col. 20, lines 48-64 in reference to Fig. 5) (claim 30);
- a user interface that is a printed report ('Mineset Decision Table Visualizer', Fig. 5-8; col. 15, line 55- col. 16, line 26; col. 19, line 59-65) (claim 31);
- a user interface that is a sorted display identifying at least a portion of the test documents ('Nominal Order menu', col. 20, lines 20-47) (claim 33);
- calculating a precision score for the identified test documents ('prior probability', col. 18, lines 9-33[9]) (claim 34).

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[7] Clusters are defined as neighborhoods in lines 37-43. Examiner asserts that the distance metric takes into consideration clusters (or neighborhoods) of points in a data set.

[8] Referring to the formula for calculating the precision score disclosed in the specification (page 15, lines 1-9), Examiner asserts that the prior probability calculation in Becker serves the same purpose.

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Masand with the teachings of Becker to include color coding and selecting for display identified test documents based on a metric of confidence, as well as a user interface that is a printed report and a sorted display identifying at least a portion of test documents.

The ordinary skilled artisan would have been motivated to modify Masand per the above for the purpose of enabling a user to understand the importance of specific attribute values for classification through a decision table visualizer. In addition, the visualizer allows for interactive techniques to maximize user control of the model exploration process (Abstract; col. 5, line 50- col. 6, line 43).

43. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Number 5,251,131 issued to Masand et al (hereafter Masand), as applied to claim 22 above, in view of US Patent Number 6,405,195 B1 issued to Ahlberg.

Referring to claim 32, Masand discloses all of the claimed subject matter as set forth above, but fails to teach that the user interface is a file conforming to XML syntax.

However, Ahlberg discloses analogous art wherein a user interface is a file conforming to XML syntax (col. 16, lines 37-53).

It would have been obvious to a person of ordinary skill in the art at the time that the invention was made to modify Masand to further include a user interface file conforming to XML syntax taught by Ahlberg.

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[9] Referring to the formula for calculating the precision score disclosed in the specification (page 15, lines

The ordinary skilled artisan would have been motivated to modify Masand per the above for the purpose of implement various data transfers and display generation as commonly known in the art (col. 16, lines 37-53).

Allowable Subject Matter

44. Claims 12, 14, 24 and 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl M Fernandes whose telephone number is (703) 305-3917. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (703) 308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

1-9), Examiner asserts that the prior probability calculation in Becker serves the same purpose.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMF
June 14, 2004

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